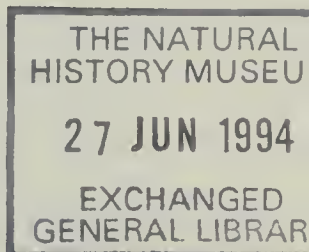


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## New and poorly known species of the genus *Nebria* Latreille from China (Coleoptera Carabidae Nebriinae)

**Abstract** — In this note are described a new subgenus (*Sphodronebria*) and four new species of the genus *Nebria* from Sichuan (China): *N. (Sphodronebria) paradoxa*, *N. (Eonebria) cathaica*, *N. (Asionebria) delicatula* and *N. (subg.?) lucidissima*. *N. (Eonebria) sifanica* is redescribed, *N. suenisoni* is transferred from the subgenus *Reductonebria* to *Eonebria*, the males of *N. amabilis* and *N. fairmairei* are described and distributional data are given for other recently described Chinese species of this genus.

**Riassunto** — Specie nuove e poco note del genere *Nebria* Latreille della Cina (Coleoptera Carabidae Nebriinae).

In questa nota vengono descritti un nuovo sottogenere (*Sphodronebria*) e quattro nuove specie del genere *Nebria* della regione del Sichuan (Cina): *N. (Sphodronebria) paradoxa*, *N. (Eonebria) cathaica*, *N. (Asionebria) delicatula* e *N. (subg.?) lucidissima*. *N. (Eonebria) sifanica* è ridescritta, *N. suenisoni* viene trasferita dal sottogenere *Reductonebria* a *Eonebria*, viene descritto il maschio di *N. amabilis* e *N. fairmairei* e vengono forniti nuovi dati geonemici su altre specie cinesi recentemente descritte.

**Key words:** Coleoptera, Carabidae, *Nebria*, China, new subgenus, new species.

### Introduction

Studying abundant material of Carabidae from various regions of China, we discovered several undescribed species of the genus *Nebria* Latreille, some of which very interesting from the systematic point of view.

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With this note we mean to describe the new species trying to place them in the complicated framework of the Chinese representatives of this group; at the same time we will give some systematic and distributional data on some other species, helping to complete their descriptions.

*Sphodronebria* subg. n.

Diagnosis. A subgenus of *Nebria* of large size, fully winged, without discal pores on the elytra; median tibiae more or less curved inward and furnished with a brush of setae on external side in apical third; metatrochanters with a long, pointed apophysis directed backwards and varying in size according to sex.

Type-species: *Nebria paradoxa* Sciaky & Pavesi, herewith described.

*Derivatio nominis*. The name of this subgenus derives from Greek and alludes at the same time to the stout shape of the body and to the resemblance to the Pterostichinae Sphodrini (σφοδρός = strong).

Description: size large, colour almost completely black.

Head wide, convex. Antennae relatively short and stout, pubescent from segment 5.

Pronotum flat, with lateral gutter very wide but rather deep, wrinkled. Basal angles sharp. Lateral and basal setae present. Sternal parts completely smooth.

Elytra subparallel, convex, with well marked shoulders and deep striae; third interval without pores. Hind wings fully developed and potentially functional.

Median tibiae of male strongly curved inward and furnished with a brush of setae on external side at apex (fig. 8); in the females the tibiae are less strongly curved and the apical brush of setae is reduced (fig. 9). Metatrochanters with a long pointed apophysis directed backwards, more or less developed (figs. 10-12): this is always big and pointed in the males, while it varies along a continuum cline in the females.

Aedeagus with weakly asymmetrical ostium (fig. 16).

Affinities. This new subgenus is characterized by the large size (around 2 cm), the particularly wide and stout structure of the body and the very peculiar structure of the mid-tibiae of the male, that are strongly curved inward, with a brush of setae on the internal side in the apical third. Such a structure is very similar to that of several species of Pterostichinae Sphodrini belonging to the genera *Laemostenus* and *Taphoxenus*. Also the structure of the male metatrochanters can only be compared with that of some Sphodrini, while we do not know any other *Nebria* exhibiting such characters. We ignore the function of such sexual dimorphism.

The sexual characters (shape of the mesotibiae, development of metatrochanters) are almost unique within the genus *Nebria*, but they are all autoapomorphies, and therefore cannot give us information on the relationships of this subgenus. Following Shilenkov's key to the subgenera of the Far East (1975) one would classify it as an *Eunebria*, but the differences are many and important. Actually it is possible that this subgenus has derived from an ancestor similar to *Eunebria*, but it differs in many important characters, namely the first antennomere long and slender, with two dorsal

setae, the head not restricted behind the eyes, the antennae relatively short, the episterna smooth and the mesotibiae strongly curved.

It also superficially reminds the subgenus *Paranebria* Jeannel, but this subgenus has as distinctive characters the punctate metaepisterna and the presence of at least one elytral puncture on the third interval, while in *Sphodronebria* both characters are lacking. On the other hand, in *Paranebria* there seems to be a slight tendency towards a curving of male mesotibiae, but never so developed as in *Sphodronebria*. Anyway, we want to point out that *N. livida* and *N. macrogona*, the only two species included in *Paranebria* up to now (Shilenkov, 1975), do not seem to show close strict relationships: while *N. livida* seems closer to *Eunebria*, *N. macrogona*, from Japan, occupies a very isolated position among the *Nebria* of the Far East. It is therefore possible that they have been included in the same subgenus by a mere convergence of certain characters, without real relationships.

*Nebria (Sphodronebria) paradoxa* n. sp.

Diagnosis. The only species of the subgenus, large, wide and convex, with strongly transverse prothorax and long, convex, almost parallel elytra (fig. 1).

Type-locality: China, N Sichuan, Zhangla m. 4200.

Typical series: *Holotypus* ♂, 24.VII.1991, in the collection of the Museo Civico di Storia Naturale of Milan. 15 paratypes ♂♂ ♀♀ from the same locality and date in coll. Sciaky, Pavesi and Tedeschi.

*Derivatio nominis*. The name points out the presence in this species of several unusual characters.

Description: size very large (mm 18-21). Colour black; two small spots on the vertex, buccal parts, antennae from antennomere 2, lateral margins of pronotum, knees and the medial part of urosterna dark reddish-brown.

Head wide, convex, without collar constriction, with small but very strongly convex eyes. Anterior margin of labrum notched in the middle (fig. 6). Mentum tooth bifid at apex, ligula with two big apical setae and two smaller ones behind these. Three more couples of setae are near the apex of paraglossae (fig. 7). Antennae relatively short and stout, reaching basal fifth of the elytra. Two setae at the apex of segment 1, two (one above and one below) on segment 2, six on segment 3. One orbital seta present near posterior margin of eye. Penultimate labial palpomere with five setae (three on the inner margin and two in preapical position on the outer margin).

Pronotum transversal, almost flat, with lateral gutter very wide and explanate but rather deep, its surface wrinkled. One basal seta in the hind angle and two lateral setae on each side of pronotum, inserted very near the pronotal margin, not in the gutter (this kind of insertion is very rare and we know it only in *Leistus crenifer* Tschitscherine). Sides weakly sinuate towards base, fore angles projecting forward, basal angles sharp and right. Anterior margin unbordered, slightly projecting forward in the middle; median line deep, reaching preapical sulcus; preapical area punctate, prebasal sulcus well-defined, basal area sparsely punctate. Sternal parts impunctate but slightly wrinkled.

Elytra long, subparallel, convex. Striae well marked, strongly punctate; intervals convex, especially the inner ones; no discal pores. Shoulders



1



2



3



4



5

Figs. 1-5 — Habitus of: *Nebria paradoxa*, holotypus (1), *N. sifanica* (2), *N. cathaica*, holotypus (3); *N. delicatula*, holotypus (4); *N. lucidissima*, paratypus (5). (Warning: the species are not at the same magnification).

evidently square; basal margin almost transversal with respect to the axis of the body and forming an obtuse angle with lateral margin. Scutellar pore absent.

Legs slender but relatively short. All tarsi superiorly glabrous, fore tarsi of the male almost not dilated but furnished with adhesive hairs inferiorly. Last article of all tarsi with four or five couples of long setae underneath. Median tibiae in the males strongly curved inward but not in a regular curve, rather bent almost in the middle (fig. 8); in the females they are less strongly but still evidently curved (fig. 9). Metatrochanters with a long pointed apophysis directed backwards (figs. 10-12).

This apophysis is always present and completely developed in the male specimens (fig. 10), while in the females it shows all the degrees of development, from nearly fully developed (fig. 11) to almost absent (fig. 12). We could not find any correlation between the degree of development and other characteristics of the specimens.

Aedeagus long and slender, with weakly asymmetrical ostium (fig. 16).

Affinities. As mentioned in the description of the subgenus, this species is very isolated among the taxa known from China.

Beyond the sexual characters discussed above, we can add that, contrary to what is often observed in this genus, the males are constantly bigger than the females.

#### *Nebria (Eunebria) przewalskii* Semenov, 1889

*N. przewalskii* was described from two localities («Thibet sept.-orient.: montes Burchan-budda et Amdo») that now are within the borders of the region of Qinghai. We have been able to study a long series of specimens from several localities of Qinghai, namely: North Caka Lake m. 3700, Maqing m. 4400, Qingshuie m. 4200, Huashixia m. 4200.

From a thorough examination of these specimens we could ascertain that this species exhibits the same colour pattern of *N. koiwayai* Ledoux & Roux, 1989 and *N. cincta* Ledoux & Roux, 1991, that is with the margins of pronotum and elytra yellow and the rest of the body blackish. Even though Ledoux and Roux did not compare their two species with *N. przewalskii*, it seems that the relationships among the three are very strict.

This species shows a strongly transverse prothorax (fig. 13), almost constantly with two lateral setae.

#### *Nebria (Eunebria) koiwayai* Ledoux & Roux, 1989

As *N. przewalskii* Semenov, 1889 is the earliest one described of this group, we regret that Ledoux and Roux (1989) did not compare with it their new species. Moreover the localities from which *N. przewalskii* was described are now in Qinghai, very close to the type-locality of *N. koiwayai*. Actually the two species are extremely close to each other, so that the distinction between them is quite difficult. From the specimens that we could study it seems that *N. przewalskii* has two lateral setae on each side of pronotum while *N. koiwayai* only one, and the pronotum itself is different in shape, being less transverse in *N. koiwayai* (fig. 14).

*Nebria (Eunebria) cincta* Ledoux & Roux, 1991

Like in the case of the preceding species, although *N. cincta* and *N. koiwayai* are certainly very closely related to each other, the Authors do not even mention *N. koiwayai*, described by themselves two years earlier, in the original description of *N. cincta*. After examining further material of both species from their respective type-localities, we have identified some characters. *N. cincta* is more closely related to *N. przewalskii*, showing almost no differences in the shape of pronotum, but it constantly possesses a scutellar and a preapical pore on the third interval of elytra and only one lateral seta on the pronotum (fig. 15).

*Nebria (Eonebria) sifanica* Semenov & Znojko, 1928

This species had been described upon a single female specimen. As it was markedly different from the two other known species, the description was mainly comparative and not very detailed. As one of the species recently captured in Sichuan seems to fit the diagnosis of *N. sifanica*, we re-describe here the species, so as to allow a comparison with another *Eonebria* that we will describe in the following pages.

Redescription: size large (mm 11-13), colour black; buccal parts, antennae from antennomere 2, part of tibiae and tarsi reddish-brown.

Head wide, convex, with weak collar constriction and small but very strongly convex eyes. Anterior margin of labrum rectilinear. Antennae long and slender, reaching the middle of the elytra. Segment 1 long and slender, much longer than segment 2. One seta at apex of segment 1, one on segment 2, five on segment 3. One orbital seta present near posterior margin of the eye. Penultimate labial palpomere with two setae. Mandibles short and strongly curved, dilated at their base.

Pronotum transversal, rather flat, with lateral gutter very narrow. Lateral setae present and inserted little after middle of pronotal length. Sides almost rectilinearly restricted towards the base, but slightly sinuate immediately before the hind angles; epipleurae partly visible from above for a short distance in front of the hind angles. Fore angles very weakly projecting forward, basal angles obtuse. Disc almost flat in the middle, but convex on the sides; median line deep, not reaching anterior margin, that is convex, unbordered; preapical sulcus v-shaped, delimiting a preapical area impunctate, prebasal sulcus well-defined, basal area with only a few scattered points. Sternal parts impunctate.

Elytra long, oviform, weakly convex. The maximum width after middle. Striae well marked, strongly punctate, obliterate towards the apex and more superficial towards the external margin; intervals convex, third one with two pores, the central one missing. Shoulders completely rounded, basal margin strongly obliquous and forming a weak curve with the lateral margin. Humeral tooth, well developed in the eastern Siberian species of the subgenus, *N. djakonovi*, *N. komarovi* and *N. kurentzovi*, absent. Scutellar pore present.

Legs slender and extremely long. All tarsi superiorly glabrous, fore tarsi of male rather strongly dilated and furnished with adhesive hairs inferiorly. Last article of all tarsi with three or four couples of long setae underneath.

Aedeagus short and stout, with strongly asymmetrical ostium (fig. 17).

Affinities. The subgenus *Eonebria* was described for three species: two of them, with metallic elytra, from Corea and the Maritime province of Siberia (*N. djakonovi* Semenov & Znojko, 1928 and *N. komarovi* Semenov & Znojko, 1928), the third one, completely black, from Western China: *N. sifanica*. The latter, until now the only one known for this region, had been found in Ta-tsao-pin (Northern Sichuan) in one female specimen. The specimens we examined were collected in another locality of Northern Sichuan, Zhangla, at an elevation of 4700 m.

The shape of the aedeagus was unknown up to day in *N. sifanica*, but it proved to be very similar to that of *N. djakonovi* and *N. komarovi*, thus confirming the omogeneity of the subgenus. Also two species recently described from Sichuan, *N. longilingua* Ledoux & Roux, 1991 and *N. stricta* Ledoux & Roux, 1991, show characters similar to those of *Eonebria*. The Authors of these two species, privileging upon the other characters the occurrence of the basal seta of the prothorax, included them (Ledoux & Roux, 1992) in the subgenus *Boreonebria*, still noting that they seem to represent a transition between *Boreonebria* and *Eonebria*.

*Nebria (Eonebria) cathaica* n. sp.

Diagnosis. A *Nebria* of 11 mm, belonging to the subgenus *Eonebria* Semenov & Znojko, close to the preceding species, but with completely rounded basal angles of pronotum and with four lateral setae on the sides of the pronotum (fig. 3).

Type-locality: China, N Sichuan, Liziping.

Typical series: *Holotypus* ♂, 15.VII.1991, in coll. Pavesi.

*Derivatio nominis*. This species is named after Cathai, the ancient name of China, its *terra typica*.

Description: size large (mm 11), colour completely black, without red spots on vertex, legs almost completely black, tarsi, antennae from segment 2 and buccal parts reddish-brown.

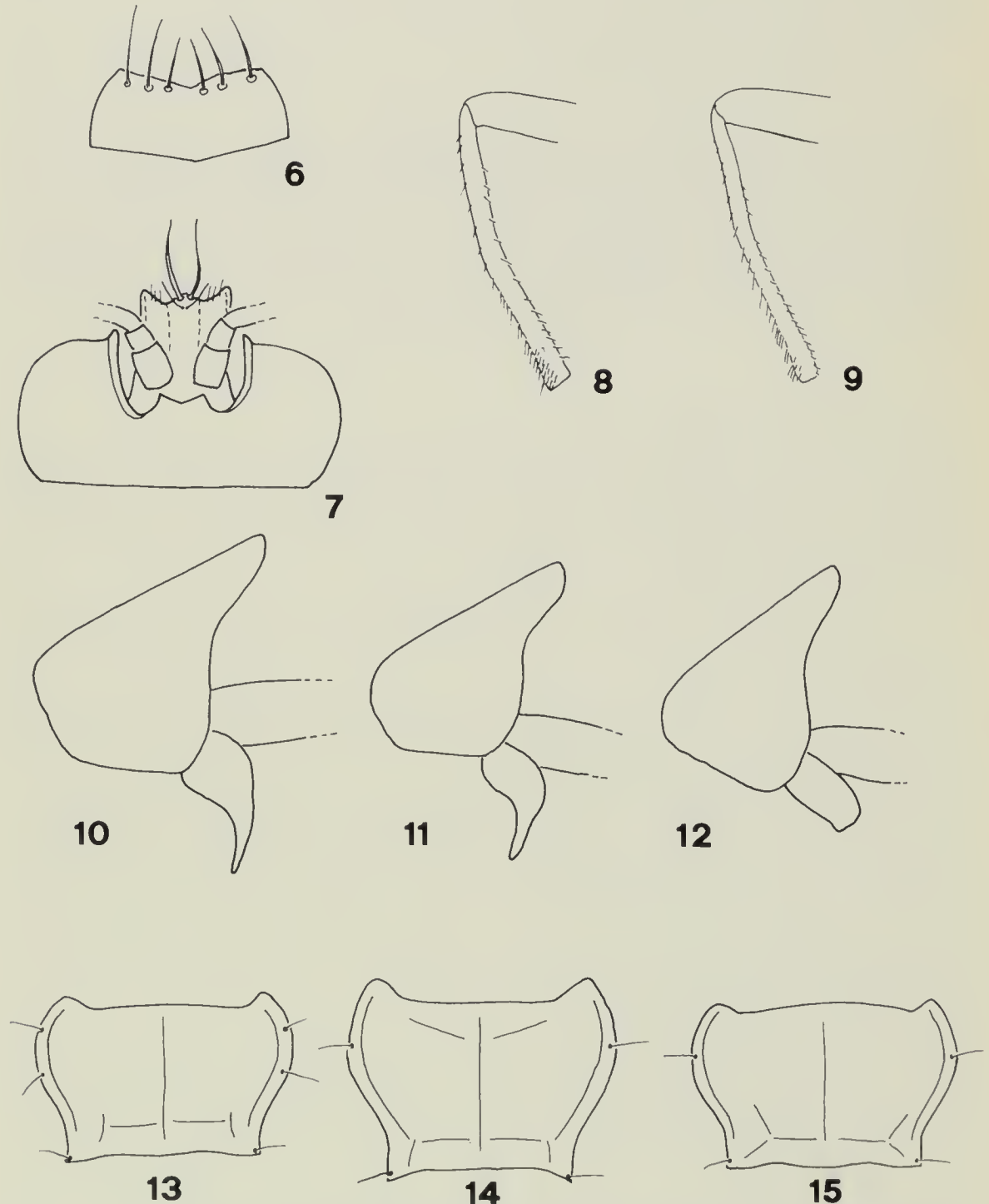
Head wide, convex, with weak collar constriction and small but very strongly convex eyes. Anterior margin of labrum rectilinear. Antennae long and slender, reaching the middle of the elytra. Segment 1 long and slender, much longer than segment 2. One seta at apex of segment 1, one on segment 2, five on segment 3. One orbital seta present near posterior margin of eye. Penultimate labial palpomere with two setae. Mandibles very wide and dilated at their base, like those of *N. sifanica* but more markedly so, reminding those of *Leistus*.

Pronotum transversal, fairly and almost evenly convex, with very narrow lateral gutter. Four lateral setae aligned along the margin. Sides not sinuate towards the base, but restricted in a curved line, fore angles very weakly projecting forward, basal angles rounded. Median line deep, not reaching the anterior margin, that is convex, unbordered; preapical sulcus v-shaped, delimiting a preapical area impunctate, prebasal sulcus well-defined, basal area only with a few scattered points. Sternal parts impunctate.

Elytra long, oviform, weakly convex. Maximum width after middle. Striae well marked, strongly punctate; intervals convex, third one with two

pores, the central one missing. Shoulders completely rounded; basal margin strongly oblique and forming a weak curve with the lateral margin. Humeral tooth absent. Scutellar pore present.

Legs slender and extremely long. All tarsi superiorly glabrous, fore tarsi of male rather strongly dilated and furnished with adhesive hairs inferiorly. Last article of all tarsi with three of four couples of long setae underneath.



Figs. 6-15. *Nebria paradoxa*: labrum (6), labium (7), mesotibia of male (8), same of female (9), hind trochanter of male (10), same of female (11, 12). Pronota of: *Nebria przewalskii* from Qingshuic (13), *N. koiwayai* from Heimahe (14) and *N. cincta* from Dogcanglhamo (15).



Aedeagus short and stout, much smaller than in *N. sifanica*, with strongly asymmetrical ostium (fig. 18).

Affinities. For the lack of basal seta of pronotum and the shape of the elytra, we ascribe this species, like the preceding one, to the subgenus *Eonebria*. The occurrence of four setae along the sides of the pronotum is a specific character unique within this subgenus, but the resemblance to *N. sifanica* is so obvious that we cannot overlook it, therefore we consider this character as autoapomorphic.

*Nebria (Eonebria) suenisoni* Shilenkov & Dostal, 1983

The Authors of this species included it in the subgenus *Reductonebria* Shilenkov, 1975 for the lack of the posterior seta of pronotum. This is contrasting with the original description of the subgenus, where Shilenkov characterized it by the lack of the anterior seta. The only subgenus in which the posterior seta of the prothorax is lacking is *Eonebria*, to which we suggest that this species should be transferred. The species of *Eonebria* known up to day were *N. djakonovi* Semenov & Znojko, 1928, *N. komarovi* Semenov & Znojko, 1928, *N. sifanica* Semenov & Znojko, 1928 and *N. kurentzovi* Lafer, 1989. In our opinion also *N. suenisoni* fits very well the diagnosis of the subgenus; the structure of the aedeagus is very similar to that of the known species of *Eonebria*, the purple colour of the elytra is similar to that of *N. komarovi* from Korea, and only the shape of the elytra, less sloping at the humeri, is slightly different.

*Nebria (Asionebria) delicatula* n. sp.

Diagnosis. A *Nebria* of 7-8 mm close to *N. (Asionebria) amabilis* Ledoux, Roux & Sawada, 1991, from which it differs in the darker legs, the narrower prothorax (fig. 4) and the shape of the aedeagus.

Type-locality: China, N Sichuan, Zhangla m. 4700.

Typical series: *Holotypus* ♂, 10.VII.1991, in the collection of the Museo Civico di Storia Naturale of Milan. 6 paratypes ♂♂ ♀♀ from the same locality and date in coll. Sciaky and Pavesi.

*Derivatio nominis.* This name alludes to the particularly narrow and slender appearance of this species.

Description: size small (mm 7-8), body completed black, with two small red spots on vertex, femora black, tibiae and tarsi reddish.

Head small, convex, with weak collar constriction; eyes big and strongly convex. Anterior margin of labrum rectilinear. Antennae rather long, but not reaching the middle of the elytra. Segment 1 rather short and stout, little longer than segment 2. One seta at apex of segment 1, one on segment 2, five on segment 3. One orbital seta present near posterior margin of eye. Penultimate labial palpomere with two setae. Mandibles short, stout and strongly curved.

Pronotum transversal, fairly convex, with lateral gutter very narrow, enlarged only in the posterior fourth. Lateral setae present before middle of pronotal length, posterior seta almost in posterior angle. Sides sinuate towards base, fore angles very weakly projecting forward, basal angles weakly

obtuse or right. Median line deep, not reaching anterior margin, that is convex, unbordered; preapical sulcus little concave in the middle, delimiting a preapical area sparsely punctate, prebasal sulcus well-defined, basal area with only a few scattered points. Sternal parts impunctate.

Elytra long, oviform, weakly convex. The maximum width after middle. Striae well marked, strongly punctate; intervals convex, third one with two pores, central one missing. Shoulders completely rounded, basal margin strongly obliquous and forming a weak curve with the lateral margin. Scutellar pore present.

Legs long and slender. All tarsi superiorly glabrous, fore tarsi of male distinctly dilated and furnished with adhesive hairs inferiorly. Last article of all tarsi with or four couples of long setae underneath.

Aedeagus long, with rather asymmetrical ostium, much more than in all the other *Asionebria* known to day (fig. 19).

Affinities. This species is provisionally included in the subgenus *Asionebria*, but we think that such systematic placement will require further examination. The closest affinities are with *N. amabilis* Ledoux, Roux & Sawada, 1991, but this species, described upon a single female specimen, is quite different from the other species of the subgenus *Asionebria*. The body and the appendages are much longer and slender than in all the other *Asionebria* known up to day and the aedeagus is quite different (see also below). It is therefore possible that in future *N. amabilis* and *N. delicatula* will be moved away from *Asionebria*.

*Nebria (Asionebria) amabilis* Ledoux, Roux & Sawada, 1991

This species was described upon a single female specimen collected in Qinghai, Angutan. We know many specimens captured in other localities of the province of Qinghai: Tianjun m. 3500; Ertala m. 3800; pass ca. 50 km. SW Heka m. 4700. Even though generally agreeing with the original description, most of the specimens examined by us have the legs paler than they had been described, that is almost completely reddish-brown.

The aedeagus, here described for the first time, is long and slender, the point is not so sharp as in the other known species of *Asionebria*, but rounded and blunt; the ostium is strongly asymmetrical (fig. 20), while in *Asionebria* it is usually almost symmetrical.

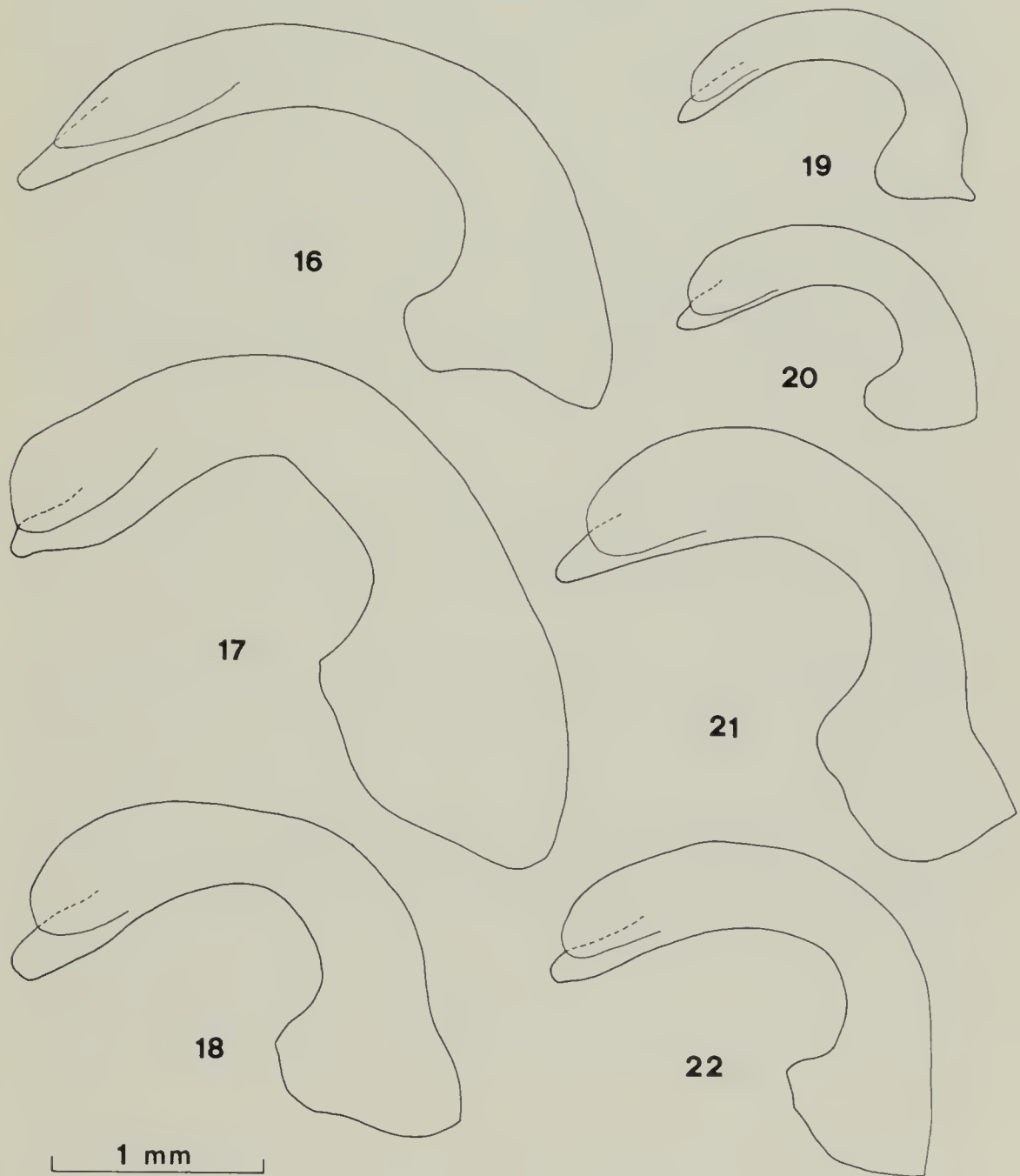
Even though it was originally included in the subgenus *Asionebria*, it seems quite different from the other known species of the subgenus; in particular, the thin and slender shape of the body are quite different from that of the other species and the aedeagus is much less pointed at the apex. On the other hand, it is very similar to *N. delicatula* here described, from which it mainly differs in the shape of the aedeagus. It is possible that future discoveries will allow to fill the gap between these two species and the other *Asionebria*, but they may also prove the necessity of splitting the subgenus.

*Nebria (subg.?) lucidissima* n. sp.

Diagnosis. A *Nebria* of 10-11 mm with no evident relationship, characterized by the big head, prominent fore angles of prothorax, occurrence of several marginal setae on pronotum and markedly flat elytra (fig. 5).

Type-locality: China, N Sichuan, Zhangla m. 4700.

Typical series: *Holotypus* ♂, 10.VII.1991, in the collection of the Museo Civico di Storia Naturale of Milan. 4 paratypes ♂♂ ♀♀, same locality and date in coll. Sciaky and Pavesi.



Figs. 16-22 — Aedeagus in lateral view of: *Nebria paradoxa*, holotypus (16); *N. sifanica* (17); *N. cathaica*, holotypus (18); *N. delicatula*, holotypus (19); *N. amabilis* (20); *N. lucidissima*, holotypus (21); *N. fairmairei* (229).

*Derivatio nominis.* The name of this species refers to the very smooth appearance of the upper part of the body, due to the flatness of the elytral intervals and to the marked iridescence.

Description: size large (mm 10-11), body black with a red spot on vertex; buccal parts, antennae from segment 2, sides of pronotum, tibiae and tarsi reddish-brown. Elytra with evident iridescence caused by the strong, isodiametric microsculpture.

Head large, convex, without collar constriction; eyes big and strongly convex. Anterior margin of labrum notched in the middle. Antennae rather long, but not reaching the middle of the elytra. Segment 1 long and slender, little longer than segment 2. Two setae at apex of segment 1, one on segment 2, six on segment 3. One orbital seta present near posterior margin of eye. Penultimate labial palpomere with three setae. Mandibles extremely long and slender, weakly curved at apex.

Pronotum transversal, rather flat, with lateral gutter very narrow, enlarged only in the posterior fourth. 4 or 5 setae present in the anterior two thirds of pronotal margins, posterior seta almost in the posterior angle. Sides not sinuate towards base, but rectilinearly restricted, fore angles strongly projecting forward, basal angles obtuse. Median line deep, not reaching anterior margin, which is convex, unbordered; preapical sulcus indistinct, preapical area sparsely punctate, prebasal sulcus well-defined, basal area with only a few scattered points. Sternal parts impunctate.

Elytra long, oviform, almost flat. Maximum width almost at middle. Striae 1-4 well marked, weakly punctate, the two following more superficial, the external ones indicated only by superficial rows of points; intervals flat, third one with three pores. Shoulders completely rounded; the basal margin, that is strongly obliquous, forms with the lateral one a weak curve. Scutellar pore present.

Legs slender but rather short. All tarsi superiorly glabrous, fore tarsi of male evidently dilated and furnished with adhesive hairs inferiorly. Last article of all tarsi with three or four couples of long setae underneath.

Aedeagus long, with rather asymmetrical ostium, similar to that of *Eonebria* (fig. 21).

Affinities. As for several Chinese ones, we do not know to which subgenus we could ascribe this species. The shape of the aedeagus is very similar to that of *Eonebria*, but the basal seta of the prothorax is present and the shape of the body is very dissimilar from that of all the species of this subgenus known up to day. As Ledoux and Roux did with two species (*N. polita* Ledoux, 1989 and *N. fairmairei* Ledoux & Roux, 1992) we refrain from including *N. lucidissima* into a given subgenus as well as from describing a new one until the knowledge on the Chinese *Nebria* will be more complete.

#### *Nebria* (subg.?) *polita* Ledoux, 1989

This species was described upon a series of specimens from Sichuan, Hualong Pass, but we know specimens from several localities, pointing out a wide distribution in China of this species. The stations of which we know it are: Gansu, Dogcanglhamo m. 4200; Sichuan, Zhangla m. 4700, Sanggarpar m. 4500; Qinghai, Huashixia m. 4200.

It seems that the distribution area of this species extends across three regions, namely Sichuan, Gansu and Qinghai. Among the mountain micropterous species of the genus *Nebria* up to now known from China, this is the one known instance of such a wide distribution area, as the other species are generally limited to very small areas.

*Nebria* (subg.?) *fairmairei* Ledoux & Roux, 1992

This species was described upon a single female specimen collected in Sichuan, Barkam. We know some specimens captured in the type-locality and in another station of the province of Sichuan: Zhangla m. 4200.

As the original description is very complete, we do not add anything to it, except the drawing of the aedeagus, that is big and stout, reminding that of *Eonebria*, but smaller (fig. 22).

The affinities of this species remain unclear: described without indication of the subgenus, it does even approach neither *N. polita* nor *N. lucidissima*, also of unclear relationships. In our opinion it seems to approach the subgenus *Pseudonebriola* Ledoux and Roux, 1989, even though it does not completely correspond to the diagnosis of that subgenus. Certainly it will be necessary to wait until new discoveries will bring to knowledge other species so as to better understand the affinities of this group.

### Conclusions

The new explorations in China are showing a very rich fauna of *Nebria*. From the material described so far, it seems that the area with a most variate fauna is Sichuan, and mainly its northern part. All the four species here described as new have been captured in that region, namely in the locality of Zhangla, that proved to have a very rich variety of species of *Nebria*, as well as other Carabidae. On the other hand, it seems that the nearby regions of Qinghai and Gansu have a lesser variety of species, some of which occupy relatively wide areas. This may depend upon the different geological structure: while in Sichuan the mountain massifs are separated from each other by deep valleys, Qinghai and Gansu are largely occupied by a high plateau, along which many Carabidae, like *Nebria*, can easily spread.

Anyway, we are persuaded that many species still remain to be discovered in China, mainly in the subgenera *Eunebria*, *Eonebria* and *Asionebria*, until their respective distribution areas will be more completely known.

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